

Coming Full Circle A Journey Inspired by Fuller

**An Interview with Michael Ben-Eli
by
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The sustainability principles you've developed represent the completion of a long intellectual and spiritual journey begun in the Sixties. In fact, they have brought you back full circle to Buckminster Fuller, who has been your mentor, your inspiration, and, even post-humously, your guide.

Tell me how you two met?

The day after I finished my military service in Israel, I left for the Architectural Association in London to study architecture. At the time, the AA, as it was called, was a small but avant-garde school, always at the forefront of what was happening intellectually in the world of architecture and, to some extent, in art. The school was in Bedford Square an area where many of the architects and planners had their offices and so everyone who was anyone in London, or passing through London, would go there to lecture ... or they would just go to the bar in the "member's room" where we all hung out! That's how I met Fuller. I was just finishing my first term at the AA. It was the end of 1964, and he was giving a lecture which I attended. I had never seen, or heard or experienced anything like it.

What was it that so impressed you?

Bucky was fearless in thinking through what needed to change in the world, and he was prescient. Even then, he foresaw the essential issues and global problems we are now becoming concerned about. He was a big thinker, one of the first to correctly diagnose and anticipate not just the condition of the planet at the time but future trends as well. What really excited me was the way he thought about solutions. He believed that most of the issues we were facing were actually design problems which we could address, by science-guided design. When we met he had just launched a new project, the World Design Science Decade, which called for all architectural schools from around the world to collaborate on a ten year program for redesigning the way we used technology, energy, and other resources. Redesign the whole industrial infrastructure in order to "make the world work." An outrageous, beautiful idea, naïve perhaps, but fantastic!

Tell us something about Fuller's view of architecture as you understood it?

Fuller had a very different attitude toward architecture than most because he didn't look at it as primarily an issue of spatial arrangements. He focused on the most efficient use of materials, asking questions like how efficient a building is in energy use, is it functioning in line with its environment, can it cool or warm itself? All these questions were forerunners to the "Green Architecture" that is emerging today. To him, fundamental principles of science were embodied in the geometry he discovered. He was really experimenting with trying to understand how nature works, and with employing this understanding in the most efficient designs. His conceptual work was driven by the question of how to make the world's resources function at peak capacity and really serve all of humanity. He was interested in how one could redesign housing to allow for high-quality living for all humans everywhere, which implies comprehensive consideration of resources, production, technology, and finance – all integrated by superior design.

So how did you develop a relationship with him?

By chance I was sitting, during that lecture, next to Keith Critchlow who was teaching at the AA at the time and who worked closely with Fuller. Keith was a brilliant painter who was also doing research on geometry. He saw my excitement and generously invited me to join him and Fuller at breakfast the next day, which I did. It was one of those milestone moments in life. We hit it off immediately and I began working on the World Design Science Decade project for the AA, and later helped organize inputs from other schools for an exhibition in conjunction with a meeting of the International Union of Architects in Paris.

Did you continue to work together?

Oh yes, I devoted the rest of my five years at school to collaborating on these issues. Keith and I, for example, spent the following year in Ghana working with Fuller on re-focusing the curriculum of the architecture school at the University of Kumasi so it reflected Fuller's philosophy. We also did a lot of interesting work experimenting with building a variety of domes with local materials, from bamboo to aluminum.

What did you do for fun at night?

Dance. Ghanaian music is incredible. There were lots of little villages around the university and on weekends, huge crowds of people would come together and dance from eight at night to the morning light...everyone moving to the same rhythm like one. Just beautiful.

Did Bucky dance?

Well, he had his mischievous interests! (Laughter) He was coming and going during the year, but altogether being in Ghana was a very important experience for me. I traveled a lot throughout the region and had many interesting adventures, which really changed me. As a 21-year-old paratrooper from Israel, I was really, the embodiment of total arrogance. Ignorantly, I felt I knew everything there was to know – until I went to Africa where many things I took for granted simply did not apply. Basic every day assumptions were suddenly groundless. Things which were reflexively important to me had very little

significance in this new, different context, and habits and ways of doing things which were basic to the local culture were entirely foreign to me. It was a huge moment of truth that shook me to the core.

Tell me a little more about the nature of your relationship with Fuller, after Ghana.

He would come to England to lecture so we saw each other frequently. We continued to work on his program and I found in him a true mentor. I spent a lot of time listening to him talk. He was very accessible, and we had a very warm and loving relationship, almost as if he was my grandfather, as well my teacher. I remember how we celebrated his 70th birthday in Paris with the huge ice cream he loved to eat named after the opera singer Maria Callas -- that was just before he went on his very strict diet!

When I graduated, he asked me to join him in the US. We spent a lot of time in Maine on the island where he used to go in the summer. And although he was a prophet of technology, there was no running water or electricity there. So, together with him you had to do everything, including chop fire wood and fetch water from a well. Meanwhile he would be speculating about the structure of the universe, the coordinate system of nature, and how to save humanity. And of course, we went sailing a lot as he was a great sailor.

What did you do with Fuller when you came to the States?

The first project he asked me to do involved working with gangs in New York. This particular gang from Harlem had heard about his work and they wanted to get away from all the drugs and crime they were involved with by relocating. Bucky gave them some land in upstate New York and wanted me to teach them how to build domes. They never moved onto the land, but I did end up working with them for a year, living in some abandoned buildings on the lower East Side, teaching them geometry and building skills! It was great fun. I ended up getting married and staying in New York, where I continued working on the World Design Decade, which by then metamorphosed into Fuller's World Game. I also served as kind of a roving ambassador for Bucky, lecturing around the country on his behalf.

Eventually, I went back to London to get my doctorate in cybernetics and systems theory. I saw the need to understand Fuller's vision -- navigating "spaceship Earth" -- as an issue of managing complexity. Cybernetics had much to say about that.

What is the most important lesson you learned from cybernetics and systems theory?

Through my studies, I learned how highly complex systems behave, regulate themselves, change and evolve, and how behavior is always linked to an underlying structure. I learned that any organism is a complex whole and that whether one looks at an individual or society -- both complex systems -- there are commonalities which hold true from a system's view point. Whether something is small or large, the fundamental nature of complexity remains the same; Of course, you have to then calibrate your vision to accommodate specific, special case characteristics.

How did you begin working on sustainability and international development?

When I came back to New York, I went into management consulting in order to learn to apply these ideas. I worked on strategy issues in different organizations from large medical centers to food processing and financial institution. It was a great experience, like having my own private laboratory. Eventually, I started a consulting group and later became involved in large national and regional projects which required consideration of environmental and other impacts. For example, in the late eighties, I was asked to advise the International Joint Commission of the Great Lakes, on how to deal with water levels that had risen precipitously, creating a complex set of technical, environmental, social and economic issues around the lake.

I increasingly become involved in issues of global resources management, which led me to work with multilateral development agencies, the World Bank and other organizations. For example, I became involved in restructuring the Global Environmental Facility, a fund which was put together at the World Bank to finance the transfer of environmentally benign technology to developing countries. The GEF dealt with issues like biodiversity, climate change, international water, and so on, issues which I began to study and focus on.

I worked on other projects as well. For example, a project related to the Mesoamerican Biological Corridor, a system of national reserves in Central America connected so species could migrate without interruption. The region is very rich in biological diversity but it is also under enormous development pressure so we were trying to introduce the corridor concept as a centerpiece of a regional sustainable development strategy. I was also asked by the World Bank to help develop a training program on sustainability, and so on.

How did this work inform or influence your thinking about the future of the planet?

I became acutely aware of the huge gap between rhetoric and action, as well as the gap between what is absolutely necessary to ensure sane, enduring development and what is happening on the ground. Despite existing efforts and all the good intentions to address sustainability by both public and private sectors players, we are still falling woefully short.

Almost all key vital indicators in the biosphere are worsening, from the extinction of species and rising CO₂ levels in the atmosphere, to the shrinking of rainforests, desertification, and the pollution of water. Reversing such destructive trends is essential if we are to secure a promising future. This will require a determined, collaborative, global, concerted effort of the kind envisioned by Fuller. Transitioning to a sustainable mode is the most critical challenge of our time yet the world and most of its political leaders are focused on entirely secondary sideshows.

How did this realization affect you?

I started focusing on the question of why we are not moving effectively and quickly enough on issues which are clearly of prime importance. I began to see that there are some fundamental, structural obstacles in the way of change. In the arena of government and inter-governmental, multilateral organizations, cumbersome bureaucracies and the need to achieve consensus on international agreements slow things down to a crawl and almost always result in compromised approaches. In the

private sector, where things can move faster, even the most revolutionary and committed CEOs can only go so far before hitting the very low ceiling of an economic accounting system which demands profits every three months and ignores the true cost of economic activities by leaving adverse impacts out of the equation.

I also began to see that the prevailing definitions of sustainability and sustainable development are just not rigorous enough. They are too easy to adopt without making real commitments to change in practice. It began to dawn on me that even most of those earnestly working to adopt the sustainable development agenda were trying to produce change but only within the limits of existing frameworks. Precisely those frameworks that we need to transcend. It is as though we continue to move pebbles around in a sand box when it is the sand box itself that we need to step out of. A true paradigm shift is required, in a number of dimensions simultaneously, for this to occur.

I also began to feel that personally and professionally it made little sense to continue moving sequentially from project to project. Especially since in most cases, potential outcomes were already compromised at the outset by the way that the issues had been framed. I did not know what to do next. It was really a crisis of a sort.

Sounds like you were hitting a wall. Where did you go from there? Back to the beginning?

Yes, exactly. I realized I had to slow down, take time out and do some quiet thinking. I didn't know where to turn for help because I already knew most of the key players. I finally felt that I had to go back to Fuller. I reread all his books, which was tough going but very interesting coming back 25 years later. I gained an entirely new level of appreciation for his work. He foresaw clearly what most are just beginning to perceive now. He understood and expressed with a radical vision the new circumstances facing humanity and the nature of the required change. He clearly saw, long before many, that the established way of doing things is exactly the source of many of our problem, and that a major reorientation of human affairs was required. His designs and inventions were really metaphors incorporating, with focused integrity, the principles which must guide the necessary change.

As I was finishing my reading and meditation on Fuller's materials, I began to develop an idea for establishing an independent, international, sustainability laboratory. Think about it as the future "MIT" for sustainability. Something in the tradition of the original Bell, or the defense laboratories, but with a mandate to focus on producing breakthrough approaches to sustainability in strategy, technology, financing and education. The intent would be to produce, over time, a portfolio of winning, show-case sustainability practices, expanding prospects and demonstrating positive impacts on peoples and ecosystems in all parts of the world.

Rather than being organized around problem areas such as climate change or energy, for example, or being focused on a list of objectives such as the United Nations Millennium Development Goals -- both frameworks that are insufficient in themselves -- work of the lab would be driven by a set of general sustainability principles. These would provide the intellectual, problem-solving framework for any specific initiative. While seeking support for the idea of the laboratory, I started working on drafting the core sustainability principles which would drive its work.

How would this be different from all the other efforts, frameworks, and models for change that already exist?

There is some excellent work being done, but much of it emphasizes particular problems or partial perspectives that aren't inclusive. The plurality of attempts at defining approaches and principles indicates, in itself, that we are still in the process of coming to terms with understanding the underlying issues. I do believe that only a major shift in the prevailing ways of doing things will secure a future of living healthy fulfilling lives on a vibrant planet. I believe that this shift needs to be driven by a set of "universal sustainability principles." Drafting these principles is my own attempt at contributing to the broader debate. I hope that people will find the principles useful and that they will ultimately be translated into operational practice and into actual innovative designs. I hope that by becoming the focus of discussion and experimentation they will move us closer to a path of truth, increasingly freer from arbitrary politics or human caprice, and closer to a more powerful source, eternal, and life-giving.

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